

CLAIMS:

1. A system for data transmission comprising:
a transmitting system comprising a first lexicon
including a plurality of digital sequence to unique
5 identifier correspondences;
a receiving system;
a transmission medium coupling said transmitting
and receiving systems, said transmitting system
capable of transmitting at least one of said plurality
10 of unique identifiers to said receiving system in lieu
of said at least one corresponding digital sequence.
2. The system of claim 1 comprising:
another system capable of receiving at least one
of said plurality of unique identifiers from one of
15 said transmitting or receiving systems.
3. The system of claim 1 wherein said receiving
system comprises a second lexicon including a
plurality of digital sequence to unique identifier
correspondences.
- 20 4. The system of claim 2 wherein said another system
comprises another lexicon including a plurality of
digital sequence to unique identifier correspondences.
5. The system of claim 1 wherein said unique
identifiers are based upon hashes of said
25 corresponding digital sequences.
6. The system of claim 1 wherein said unique
identifiers are based upon sequential identifiers for
said corresponding digital sequences.

7. The system of claim 1 wherein said unique identifiers are based upon a hash based file system.

8. The system of claim 1 wherein a digital sequence to be transmitted from said transmitting system to said receiving system is factored into a number of digital sequence chunks for which corresponding unique identifiers are ascribed.

9. The system of claim 8 wherein said digital sequence to be transmitted is factored by means of sticky byte factoring.

10. The system of claim 1 wherein said first lexicon further comprises information regarding a contents of other lexicons in said system.

11. The system of claim 3 wherein said first and second lexicons comprise information regarding a content of other lexicons in said system.

12. The system of claim 1 wherein data transmissions within said system are effectuated on a point-to-point basis.

13. The system of claim 1 wherein data transmissions within said system are effectuated on a point-to-multipoint basis.

14. The system of claim 1 wherein data transmissions are routed in said system based on metrics derived from said first lexicon.

15. A method for data transmission comprising:
providing a transmitting system comprising a
first lexicon including a plurality of digital
sequence to unique identifier correspondences;
5 providing a receiving system;
coupling said transmitting and receiving systems
through a transmission medium, said transmitting
system capable of transmitting at least one of said
plurality of unique identifiers to said receiving
10 system in lieu of said at least one corresponding
digital sequence.
16. The method of claim 15 comprising:
providing another system capable of receiving at
least one of said plurality of unique identifiers from
15 one of said transmitting or receiving systems.
17. The method of claim 15 wherein said receiving
system comprises a second lexicon including a
plurality of digital sequence to unique identifier
correspondences.
- 20 18. The method of claim 16 wherein said another
system comprises another lexicon including a plurality
of digital sequence to unique identifier
correspondences.
19. The method of claim 15 wherein said unique
25 identifiers are based upon hashes of said
corresponding digital sequences.
20. The method of claim 15 wherein said unique
identifiers are based upon sequential identifiers for
said corresponding digital sequences.

21. The method of claim 15 wherein said unique identifiers are based upon a hash based file system.

22. The method of claim 15 further comprising:

5 factoring a digital sequence to be transmitted from said transmitting system to said receiving system into a number of digital sequence chunks; and ascribing corresponding unique identifiers therefor.

10 23. The method of claim 22 wherein said step of factoring is carried out by means of sticky byte factoring.

24. The method of claim 15 wherein said first lexicon further comprises information regarding a contents of other lexicons in said system.

15 25. The method of claim 17 wherein said first and second lexicons comprise information regarding a content of other lexicons in said system.

20 26. The method of claim 15 wherein data transmissions within said system are effectuated on a point-to-point basis.

27. The method of claim 15 wherein data transmissions within said system are effectuated on a point-to-multipoint basis.

25 28. The system of claim 15 further comprising: routing data transmissions in said system based on metrics derived from said first lexicon.

29. A system for symbolic exchange of digital sequences comprising:

first and second computer systems comprising respective first and second local lexicons including a plurality of digital sequence to unique identifier correspondences;

a transmission medium coupling said first and second computer systems;

said first computer system operative to transmit a first unique identifier to said second computer system in lieu of said corresponding digital sequence.

30. The system of claim 29 wherein said second computer system is operative to compare said first unique identifier to a contents of said second local lexicon and request said first computer system to transmit said corresponding digital sequence to said first unique identifier if said first unique identifier is not present in said second lexicon.

31. The system of claim 29 wherein said first computer system is operative to transmit said corresponding digital sequence to said first unique identifier if said first computer system is aware that said second lexicon does not contain said unique identifier.

32. The computer system of claim 31 wherein said second computer system is operative to add said corresponding digital sequence to said first unique identifier to said second local lexicon if not previously contained therein.

33. The computer system of claim 31 further comprising:

5 a third computer system comprising a third local lexicon including a plurality of digital sequences to unique identifier correspondences, said third computer system coupled to one of said first or second computer systems and operative to receive a first unique identifier therefrom in lieu of said corresponding digital sequence.

10 34. The computer system of claim 29 wherein said transmission medium comprises a network.

35. The computer system of claim 34 wherein said network comprises the Internet.

15 36. The computer system of claim 29 wherein said unique identifiers are based upon a hash of said corresponding digital sequence.

37. The computer system of claim 29 wherein said digital sequence comprises a file.

20 38. The computer system of claim 29 wherein said digital sequence comprises a video stream.

39. A method for symbolic exchange of digital sequences between first and second computer systems including respective first and second local lexicons containing a plurality of digital sequence to unique identifier correspondences, said method comprising:
25 transmitting a first unique identifier from said first computer system to said second computer system in lieu of said corresponding digital sequence.

40. The method of claim 39 further comprising:

comparing said first unique identifier to said contents of said second local lexicon; and

requesting said first computer system to transmit
5 said corresponding digital sequence to said first unique identifier if said first unique identifier is not present in said second lexicon.

41. The method of claim 39 further comprising:

transmitting said corresponding digital sequence
10 to said first unique identifier if said first computer system is aware that said second lexicon does not contain said unique identifier.

42. The method of claim 40 further comprising the step of:

15 adding said corresponding digital sequence to said first unique identifier to said second local lexicon in not previously present therein.

43. The method of claim 39 further comprising the step of:

20 providing a third computer system comprising a third local lexicon including a plurality of digital sequence to unique identifier correspondences;

coupling said third computer system to one of said first or second computer systems; and

25 receiving a first unique identifier from said one of said first or second computer systems in lieu of said corresponding digital sequence.

44. The method of claim 39 wherein said unique identifiers are based upon a hash of said
30 corresponding digital sequence.

